

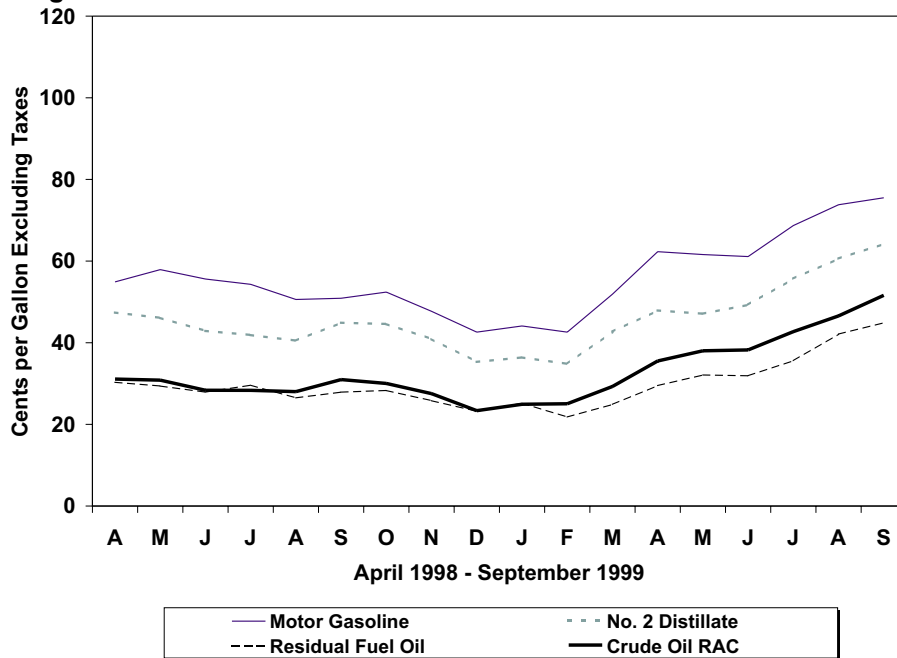
# Highlights

International crude oil prices continued to climb during September, with many key streams reaching their highest levels since early 1997. Since mid-February, spot market prices for the benchmark West Texas Intermediate and Brent streams have more than doubled. These remarkable increases have come from a combination of large and small fundamental elements. These influential actions and events run the gamut from orchestrated measures designed to reduce the supply of oil, to rising demand from regional markets, particularly Asia, to short-term factors that have helped underpin efforts to raise prices. Reduced crude oil production and exports from major suppliers remained the central factor behind the price increases in September. Estimates regarding the rate of compliance for nations participating in Organization of Petroleum Exporting Countries (OPEC)-sponsored production cut agreements indicate a high level of adherence to the output allocations in September. During OPEC's quarterly meeting on September 22, it was resolved that the present output quotas would be extended for another 6 months. In addition to curtailed output from OPEC, production from the North Sea continued to be held in check by maintenance on production facilities. Along with reduced well-head output, declining stocks in major consumer markets helped lift prices. Notably, finished product prices, particularly in some European markets, have not kept pace with escalating crude oil prices. As a result of the thin margins, refinery inputs have been cut and demand for crude oil has dropped noticeably.

In the United States, crude oil and finished product prices rose again in September. While OPEC's announcement concerning the continuation of reduced

crude oil production and exports affected U.S. market prices in the latter half of the month, the perception of the market conditions and more routine circumstances sustained the growth of prices throughout the month. Robust refining margins in most regional markets led to an overall 1.25 percent month-to-month decrease in U.S. crude oil stocks and slight to moderate increases in finished products inventories. On the West Coast, refinery runs were reduced due to a combination of lower profit margins and breakdowns at some facilities. At the national level, refinery inputs of crude oil declined slightly more than 1 percent. While demand for finished gasoline and distillates remained at the same levels seen a year ago, prices at various points in the market have changed dramatically. The spot price for unleaded regular gasoline at New York Harbor in September 1998 ranged between 38.6 cents per gallon and 46.9 cents per gallon. This year, the price ranged

**Figure HL1. Crude Oil and Petroleum Product Wholesale**



Sources: Energy Information Administration. Crude oil refiner acquisition cost: Form EIA-14, "Refiners' Monthly Cost Report"; petroleum product prices: Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report."

**Table HL1. U.S. Refiner Prices and Volumes of Petroleum Products**

(Prices: Cents per Gallon Excluding Taxes, Volumes: Million Gallons per Day)

| Products                              | Sales to End Users |        |             |        |                |        | Sales for Resale |        |             |        |                |        |
|---------------------------------------|--------------------|--------|-------------|--------|----------------|--------|------------------|--------|-------------|--------|----------------|--------|
|                                       | September 1999     |        | August 1999 |        | September 1998 |        | September 1999   |        | August 1999 |        | September 1998 |        |
|                                       | Price              | Volume | Price       | Volume | Price          | Volume | Price            | Volume | Price       | Volume | Price          | Volume |
| <b>Motor Gasoline</b> .....           | 88.8               | 61.5   | 86.5        | 63.6   | 65.5           | 65.1   | 75.5             | 309.4  | 73.8        | 307.9  | 50.9           | 299.5  |
| <b>Conventional</b> .....             | 86.2               | 37.3   | 82.5        | 38.5   | 62.6           | 39.2   | 72.8             | 204.4  | 70.1        | 206.3  | 47.8           | 199.5  |
| Regular .....                         | 82.4               | 26.5   | 78.7        | 27.3   | 58.5           | 26.9   | 70.9             | 158.6  | 68.1        | 158.5  | 45.6           | 150.8  |
| Midgrade .....                        | 92.4               | 5.8    | 88.5        | 6.0    | 68.2           | 6.3    | 77.2             | 15.0   | 74.0        | 15.7   | 51.4           | 15.8   |
| Premium .....                         | 99.2               | 5.0    | 95.6        | 5.2    | 75.6           | 6.0    | 80.7             | 30.7   | 77.8        | 32.1   | 56.1           | 32.8   |
| <b>Oxygenated</b> .....               | 95.7               | 1.9    | 92.8        | 1.9    | 70.1           | 2.1    | 83.8             | 7.3    | 82.9        | 6.2    | 58.3           | 6.9    |
| Regular .....                         | 93.6               | 1.6    | 91.1        | 1.6    | 67.3           | 1.6    | 82.8             | 5.5    | 82.4        | 4.7    | 56.6           | 5.2    |
| Midgrade .....                        | 101.5              | 0.2    | 97.2        | 0.2    | 76.5           | 0.3    | 82.1             | 1.0    | 79.0        | 0.9    | 59.3           | 1.0    |
| Premium .....                         | 110.5              | 0.1    | 105.1       | 0.1    | 85.3           | 0.2    | 93.0             | 0.8    | 92.4        | 0.6    | 68.1           | 0.8    |
| <b>Reformulated</b> .....             | 92.6               | 22.3   | 92.8        | 23.1   | 69.7           | 23.9   | 80.5             | 97.6   | 81.2        | 95.4   | 57.0           | 93.1   |
| Regular .....                         | 88.3               | 15.3   | 89.0        | 16.0   | 64.7           | 15.7   | 77.2             | 68.3   | 78.2        | 66.4   | 53.4           | 61.6   |
| Midgrade .....                        | 97.9               | 3.6    | 97.7        | 3.7    | 75.2           | 4.0    | 85.6             | 10.0   | 85.3        | 10.2   | 61.6           | 10.5   |
| Premium .....                         | 106.4              | 3.3    | 105.2       | 3.5    | 83.0           | 4.2    | 89.6             | 19.4   | 89.4        | 18.8   | 65.5           | 21.0   |
| <b>Aviation Gasoline</b> .....        | 117.7              | 0.1    | 114.8       | 0.2    | 94.1           | 0.2    | 111.9            | 0.9    | 107.6       | 0.9    | 89.8           | 0.7    |
| <b>Kerosene-Type Jet Fuel</b> .....   | 63.9               | 49.3   | 59.5        | 50.8   | 44.9           | 48.0   | 62.4             | 16.7   | 59.0        | 13.9   | 44.6           | 10.7   |
| <b>Propane (Consumer Grade)</b> ..... | 48.3               | 3.9    | 43.1        | 4.9    | 37.4           | 2.3    | 41.5             | 32.7   | 38.3        | 30.0   | 26.3           | 31.8   |
| <b>Kerosene</b> .....                 | 68.2               | 0.2    | 62.4        | 0.2    | 46.2           | 0.4    | 66.3             | 1.2    | 59.4        | 0.9    | 45.9           | 1.4    |
| <b>No. 1 Distillate</b> .....         | 74.4               | 0.2    | 67.8        | 0.1    | NA             | NA     | 73.5             | 1.1    | 68.6        | 0.6    | 53.3           | 0.9    |
| <b>No. 2 Distillate</b> .....         | 67.3               | 23.5   | 63.5        | 24.4   | 49.2           | 25.5   | 64.2             | 129.2  | 60.6        | 117.7  | 44.9           | 117.4  |
| No. 2 Fuel Oil .....                  | 64.6               | 2.7    | 58.9        | 3.1    | 47.2           | 3.1    | 60.7             | 22.9   | 56.3        | 19.9   | 41.8           | 20.9   |
| No. 2 Diesel Fuel .....               | 67.7               | 20.8   | 64.2        | 21.4   | 49.4           | 22.4   | 64.9             | 106.3  | 61.4        | 97.8   | 45.6           | 96.5   |
| Low Sulfur .....                      | 69.5               | 13.9   | 66.2        | 14.5   | 51.1           | 15.0   | 65.3             | 92.7   | 62.0        | 84.9   | 46.1           | 82.0   |
| High Sulfur .....                     | 64.0               | 6.9    | 59.9        | 6.8    | 46.1           | 7.4    | 62.0             | 13.6   | 57.7        | 12.8   | 42.5           | 14.5   |
| <b>No. 4 Fuel<sup>a</sup></b> .....   | 54.4               | 0.2    | 50.6        | 0.3    | 39.9           | 0.3    | 51.9             | 0.1    | 49.4        | 0.1    | 36.1           | 0.1    |
| <b>Residual Fuel Oil</b> .....        | NA                 | NA     | 43.6        | 15.2   | 27.6           | 13.0   | 44.9             | 9.3    | 42.1        | 7.8    | 27.9           | 17.4   |
| Sulfur Content not > 1 % .....        | 49.0               | 2.4    | 46.1        | 3.3    | 32.4           | 3.2    | 48.1             | 4.2    | 44.5        | 4.6    | 29.9           | 5.3    |
| Sulfur Content > 1 % .....            | NA                 | NA     | 42.9        | 11.8   | 26.0           | 9.8    | 42.3             | 5.1    | 38.7        | 3.3    | 27.0           | 12.2   |

NA = Not available.

<sup>a</sup> Includes No. 4 fuel oil and No. 4 diesel fuel.

Notes: Motor gasoline averages and totals prior to October 1993 include leaded gasoline.

Notes: Values shown for the current month are preliminary. Values shown for previous months are revised. Data are final upon publication in the *Petroleum Marketing Annual*.

Source: Energy Information Administration Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report."

between 64.4 cents per gallon and 73.0 cents per gallon. A comparison of the monthly averages for the two years shows a 25.9 cents-per-gallon difference. Almost the same degree of difference is evident for the spot price of No. 2 heating oil at New York Harbor. The price range was between 36.6 cents per gallon and 43.3 cents per gallon last year, and between 56.2 cents per gallon and 62.0 cents per gallon this year, with a difference of 19.9 cents among the respective monthly averages.

Additional September market and sales activity for crude oil and the principal petroleum products are summarized in the following sections.

## Crude Oil

At Cushing, Oklahoma, the daily spot price for West Texas Intermediate (WTI) rose considerably over the course of September. Opening at \$22.15 per barrel, the price slipped to its low of \$21.54 per barrel on September 2. Following the long Labor Day weekend, the price began a steady ascent to the \$24-per-barrel mark. The price remained above that point throughout the second half of the month, with the high of \$24.81 per barrel struck on September 24. Closing at \$24.54 per barrel, the price was \$2.39 higher than where it began the month.

- Monthly average crude oil prices rose substantially in all categories of sales during September. The

average domestic crude oil first purchase price increased \$2.55 (14.5 percent), to \$20.13 per barrel.

- The average free-on-board (f.o.b.) cost of imported crude oil rose \$1.95 (10.2 percent), to \$21.01 per barrel. The average landed cost of foreign crude oil increased \$1.99 (10.1 percent), to \$21.69 per barrel.
- The average refiner acquisition cost for domestic crude oil climbed \$2.17 (11.1 percent), to \$21.74 per barrel. The average cost of imported crude oil to U.S. refiners increased \$2.08 (10.6 percent), to \$21.64 per barrel. The composite refiner acquisition cost of crude oil rose \$2.12 (10.8 percent), to \$21.68 per barrel.

## Petroleum Products

### *Motor Gasoline*

The daily spot price for unleaded regular gasoline at New York Harbor experienced the most volatility of the major product prices during September. After beginning the month at 65.4 cents per gallon, the price eased to its low of 64.4 cents per gallon on September 2. Taking a rather animated path during the next several weeks, the price continued to rise overall and reached the high of 73.0 cents per gallon on September 29. Due to technical market factors, the price dropped back to 68.5 cents per gallon on the closing day of the month, still 4.5 cents higher than where it began.

- National average gasoline prices increased in all categories of sales again during September, albeit at a more gradual pace than seen in August. The average price for retail sales of motor gasoline by refiners rose 2.3 cents to 88.8 cents per gallon, while the average wholesale price increased 1.7 cents to 75.5 cents per gallon. Including data reported by a sample of motor gasoline marketers, the national average retail price at company-operated retail outlets rose 2.4 cents to 87.2 cents per gallon. The average wholesale price increased 1.9 cents to 75.7 cents per gallon. The average dealer tank wagon (DTW) price increased 1.2 cents to 83.2 cents per gallon, while the average rack price climbed 2.8 cents to 73.6 cents per gallon. The average price for bulk sales rose 1.0 cent to 66.5 cents per gallon. The difference between reformu-

lated and conventional gasoline prices was 5.5 cents at retail and 6.1 cents at wholesale. The variation between conventional and oxygenated gasoline prices was 7.1 cents at retail and 9.3 cents at wholesale.

- September sales of gasoline by refiners show marginal decreases in most categories. Total sales fell 600,000 gallons per day (0.2 percent), to an average of 370.9 million gallons per day. Retail sales fell 2.1 million gallons per day (3.3 percent), while wholesale sales rose 1.5 million gallons per day (0.5 percent). Rack sales made up 63.7 percent of wholesales, while DTW and bulk sales accounted for 23.4 percent and 12.9 percent, respectively. Reformulated gasoline (RFG) comprised 32.3 percent of total motor gasoline sales, while oxygenated accounted for 2.5 percent.

### *No. 2 Distillate*

The daily spot price for No. 2 heating oil rose during September, although it lacked the same level of vigor seen in crude oil and gasoline prices. Opening at 57.6 cents per gallon, the price reached the month's low of 56.2 cents per gallon on September 2. After some give-and-take during the intervening weeks, the price reached its high of 62.0 cents per gallon on the last day of September, 4.4 cents higher than where it began the month.

- September monthly average No. 2 distillate prices increased in all categories of sales. The national average residential price jumped 6.6 cents to 90.1 cents per gallon, while the average wholesale price climbed 3.6 cents to 64.5 cents per gallon. The average price for No. 2 diesel fuel at company-operated retail outlets rose 3.7 cents, while the average wholesale price increased 3.3 cents. The difference between low- and high-sulfur diesel fuel prices was 3.6 cents at retail and 2.6 cents at wholesale.
- Refiner sales of No. 2 distillate climbed again during September. Total sales of No. 2 distillate increased 10.5 million gallons (7.4 percent), to 152.7 million gallons per day. Sales of No. 2 fuel oil rose 2.6 million gallons per day (11.3 percent), while sales of No. 2 diesel fuel climbed 7.9 million gallons per day (6.6 percent). Low-sulfur diesel fuel accounted for 83.9 percent of all refiner diesel fuel sales and 69.8 percent of all refiner No. 2 distillate sales.

### ***Residual Fuel Oil***

- Residual fuel oil prices generally rose in September. Refiner prices for low-sulfur residual fuel increased 2.9 cents to 49.0 cents per gallon at retail, and 3.6 cents to 48.1 cents per gallon at wholesale. The average high-sulfur residual fuel wholesale price rose 3.6 cents to 42.3 cents per gallon. Including data reported by the sample of residual fuel oil marketers, the average low-sulfur price increased 2.0 cents to 47.8 cents per gallon at retail, and 1.9 cents to 45.7 cents per gallon at wholesale. The average price for high-sulfur residual fuel oil jumped 4.0 cents to 46.8 cents per gallon at retail, and 2.6 cents to 43.5 cents per gallon at wholesale.

### ***Other Products***

- Prices for the remaining surveyed products rose solidly during September. Refiner propane prices climbed 5.2 cents per gallon at retail, and 3.2 cents per gallon at wholesale. Including data from a sample of propane marketers, the average residential propane price rose 2.5 cents per gallon. The average retail price for propane jumped 5.5 cents, while the average wholesale price increased 2.9 cents per gallon. Prices for kerosene-type jet fuel, aviation gasoline, kerosene, No. 1 distillate, and No. 4 distillate rose at both retail and wholesale.
- Refiner sales of products included in this section were mixed during September. Sales of propane, kerosene-type jet fuel, kerosene, and No. 4 distillate fell at retail but rose at wholesale. Aviation gasoline sales fell at both levels, while No. 1 distillate sales increased at both retail and wholesale.

